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Substitute for form 1449/PTO

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STATEMENT BY APPLICANT**

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Sheet

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of

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| Application Number | 10/743,077 |
| Filing Date | December 23, 2003 |
| First Named Inventor | Wilmont Howard |
| Art Unit | 1753 |
| Examiner Name | |
| Attorney Docket Number | 2003 |

U. S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Document Number Number-Kind Code ² (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|-----------------------|---|--------------------------------|--|---|
| | 1 | US- Pub. No.: US US- 2003/0082452 A1 | 05-01-2003 | Atsushi | Entire document |
| | 2 | US- Pub. No.: US US- 2002/0114995 A1 | 08-22-2002 | Thackery | Entire document |
| | 3 | US- Pub. No.: US US- 2003/0138699 A1 | 07-24-2003 | Kweon | Entire document |
| | 4 | US- 5,981,106 | 11-09-1999 | Amine | Entire document |
| | 5 | US- 6,214,493 B1 | 04-10-2001 | Bruce | Entire document |
| | 6 | US- 5,962,166 | 10-05-1999 | Ein-Eli | Entire document |
| | 7 | US- Pub. No.: US US- 2002/0150530 A1 | 10-17-2002 | Gao | Entire document |
| | 8 | US- Pub. No.: US US- 2003/0087154 A1 | 05-08-2003 | Ohzuku | Entire document |
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FOREIGN PATENT DOCUMENTS

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|--------------------|-----------------------|--|--------------------------------|--|---|----------------|
| | 9 | WIPO 03/015198 A2 | 02-20-2003 | Dahn | Entire document | |
| | 10 | EP 1 137 598 B1 | 04-23-2003 | Gao | Entire document | |
| | 11 | EP 1 189 296 A2 | 03-20-2002 | Paulsen | Entire document | |
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| NON PATENT LITERATURE DOCUMENTS | | | |
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| | 12 | G. CEDER, D. CARLIER, C. GREY, J.P. GORMAN, AND J. REED, "The Local Structure and Electrochemical Behavior of Li (Li,Ni,Mn) O ₂ Compounds", LiBD 2003 - Electrode materials, September 14-19, 2003, Abstract No. 53 - Oral, Arcachon, France. | |
| | 13 | ALASTAIR D. ROBERTSON, A. ROBERT ARMSTRONG AND PETER G. BRUCE, "Extracting Lithium Beyond Mn ⁴⁺ in Lithium Manganese Oxide", LiBD 2003 - Electrode materials, September 14-19, 2003, Abstract No. 57 - Oral, Arcachon, France. | |
| | 14 | ZHONGHUA LU, L. Y. BEAULIEU, R. A. DONABERGER and J. R. DAHN, "Synthesis, Structure, and Electrochemical Behavior of Li[NixLi 1/3-2x/3Mn2/3-x/3]O ₂ ", Journal of The Electrochemical Society 149 (6) A778-A791, 2002, A778 - A791, The Electrochemical Society, Inc. | |
| | 15 | S.-S. SHIN, Y.-K. SUN, and K. AMINE, "Synthesis and electrochemical properties of Li[Li(1-2x)/3NixMn(2-x)/3]O ₂ as cathode materials for lithium secondary batteries", Journal of Power Sources 112, 634 - 638, 2002, Journal of Power Sources, Elsevier Science B.V., www.elsevier.com/locate/jpowsour. | |
| | 16 | ZHONGHUA LU, D. D. MAC NEIL, AND J. R. DAHN, "Layered Cathode Materials Li[NixLi(1/2-2x/3)Mn(2/3-x/3)]O ₂ for Lithium-Ion Batteries", Electrochemical and Solid State Letters, 4, 2001, A191-A194, The Electrochemical Society, Inc. | |

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| | 17 | J. MOLEND, J. MARZEC, K. SWIERCZEK, M. ZIEMNICKI, W. OJCZYK, "The effect of 3d substitutions in the maganese sublattice on the electrical and electrochemical properties of manganese spinel", LiBD 2003 - Electrode materials, September 14-19, 2003, Abstract No. 31 - Flash oral, Arcachon, France. | |
| | 18 | KOICHI NUMATA, CHIE SAKAKI AND SHOJI YAMANAKA, "Synthesis and characterization of layer structured solid solutions in the system of LiCoO ₂ - Li ₂ MnO ₃ ", Solid State Ionics 117, 1999, 257-263, Solid State Ionics, Elsevier Science B.V. | |
| | 19 | BRETT AMMUNDSEN, JENS PAULSEN, ISOBEL DAVIDSON, RU-SHI LIU, CHIH-HUNG SHEN, JIN-MING CHEN, LING-YUN JANG, AND JYH-FU LEE, "Local Structure and first Cycle Redox Mechanism of Layered Li _{1.2} Cr _{0.4} O ₂ Cathode Material", Journal of The Electrochemical Society, 149, 2002, A432-A436, The Electrochemical Society, Inc. | |
| | 20 | R. V. CHEBIAM, F. PRADO, AND A. MANTHIRAM, "Structural Instability of Delithiated Li _{1-x} Ni _{1-y} Co _y O ₂ Cathodes", Journal of The Electrochemical Society, 148, 2001, A49 -A53, The Electrochemical Society, Inc. | |
| | 21 | J.-S. KIM, J. T. VAUGHEY, C. S. JOHNSON, AND M. M. THACKERAY, "Significance of the Tetrahedral A Site on the Electrochemical Performance of substituted Li _{1.05} Mn _{0.05} Mn _{1.90} O ₄ Spinel Electrodes (M = Li, Mg, Zn, Al) in Lithium Cells", Journal of The Electrochemical Society, 150, 2003, The Electrochemical Society, Inc. | |

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| | 22 | YOUNGJOON SHIN AND ARUMUGAM MANTHIRAM, "Origin of the Capacity of Spinel LiMn ₂ -yLi _y O ₄ ±δ (0 ≤ y ≤ 0.15) in the 5 V Region", Electrochemical and Solid-State Letters, 6 | |
| | | (12), 2003, A249-A251, The Electrochemical Society, Inc. | |
| | 23 | C. STOREY, I. KARGINA, Y. GRINCOURT, I. J. DAVIDSON, Y.C. YOO, D. Y. SEUNG, "Electrochemical characterization of a new high capacity cathode", Journal of Power Sources 97 -98, | |
| | | 2001, 541-544, Elsevier Science B.V., www.elsevier.com/locate/jpowsour. | |
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